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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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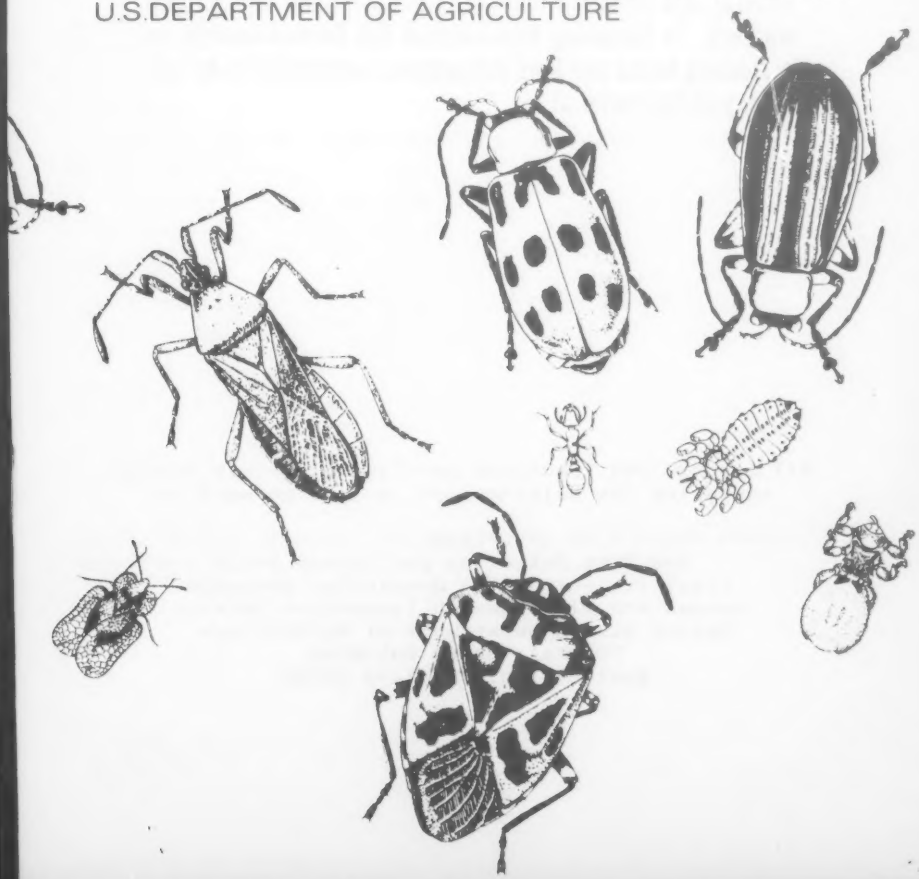

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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CEIR
New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM moth flights underway in New Mexico and Kansas, larvae retarding first-growth alfalfa in northeast Colorado. ARMYWORM moth flights heavy in northwest Tennessee and in central and northeast Kansas. (pp. 385, 398).

ALFALFA WEEVIL overwintered adults active in alfalfa in central Lower Michigan. Infestations required treatments in southwest and south-central Indiana, economic in southwestern half of Illinois; larvae increased in southern Iowa, caused severe lacing of alfalfa in north-central Kansas. Pest extended its range in eastern alfalfa-growing area of New Mexico (pp. 387-389).

Adults and immatures of several FRUIT PESTS active in the Northwest. (p. 392).

JAPANESE BEETLE larval populations in sod heaviest in past five to six years in Rhode Island. (p. 397).

Detection

A CARPENTER ANT and a CLERID BEETLE are new State records for Alabama (p. 395).

For new county records see page 397.

Special Report

Distribution of the Pecan Weevil in Georgia. (pp. 399-401).

Reports in this issue are for week ending May 9 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....385

Insects Affecting

Corn, Sorghum, Sugarcane....386
Small Grains.....387
Forage Legumes.....387
Cotton.....390
Potatoes, Tomatoes, Peppers.390
Beans and Peas.....390
General Vegetables.....391
Deciduous Fruits and Nuts...392
Citrus.....393
Small Fruits.....393
Ornamentals.....393
Forest and Shade Trees...394
Man and Animals.....394
Households and Structures.....395
Stored Products.....395

Hawaii Insect Report.....391
Beneficial Insects.....396
Federal and State Plant Protection Programs.....396
Detection.....397
Corrections.....397
Light Trap Collections.....398
Distribution of the Pecan Weevil in Georgia.....399

WEATHER OF THE WEEK ENDING MAY 12

Reprinted from the Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Heavy rain and snow in the northern Rockies produced over 3.50 inches of precipitation in central Montana. Severe weather from the central Plains to Georgia resulted in many tornado reports.

PRECIPITATION: Monday, a strong circulation around a deep Low in Colorado caused severe weather in the northwestern Plains and heavy snow in the northern Rockies. One-inch hail fell near Rapid City, South Dakota, and quarter-inch hail was recorded at Miles City, Montana. Elsewhere, a few thunderstorms developed in central and southern Texas with golf ball to baseball-size hail in several places. Isolated crop damage from hail was reported. A tornado was spotted near Austin, Texas. Scattered thundershowers fell across the Gulf States and the western Great Lakes region. The deep Low was scattered in southeast Montana on Tuesday. Lines of heavy, scattered thunderstorms formed along a cold front from the Dakotas through Kansas, Missouri, and east Texas, and produced tornadoes and hail. Twelve tornados were reported in eastern Nebraska. Three twisters in Omaha, Nebraska, simultaneously resulted in the worst tornado disaster since an Easter Sunday in 1913. Other tornadoes were reported in South Dakota, Iowa, Arkansas, and Oklahoma. Numerous reports of golf ball or larger-sized hail were received from Nebraska southward to Texas. Other thunderstorms extended across the mid-Mississippi Valley into the Ohio Valley and the southern Appalachians. Cold rain and snow continued over the Rockies. Scattered showers occurred in the mid-Atlantic States. Wednesday, cooler air had moved to the mid-Mississippi Valley and a Low center in Montana was becoming weak and disorganized; however, instability was still producing severe weather in eastern South Dakota and adjacent parts of Minnesota

Weather of the week continued on page 402.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Euxoa auxiliaris) - NEW MEXICO - Adult flight underway. Thousands of moths littered courthouse steps at Roswell, Chaves County. Many complaints and inquiries received in that area. Light-trap collections in Dona Ana County reflect this emergence. See page 398. (N.M. Coop. Rpt.). COLORADO - Ranged up to one per linear row foot in Washington County wheat. (Hantsbarger, Pilcher). Holding back first-growth alfalfa in Johnstown area, Weld County. (Aldridge). KANSAS - First-generation moth flight underway in Finney County. (Bell).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Treatment completed in Kern County. Treatment begun in upper San Joaquin Valley. Total of 13,306 acres sprayed this period in Kern, Kings, and Fresno Counties. Total of 45,267 acres sprayed to May 9. (Cal. Coop. Rpt.).

ARMYWORM (Pseudaletia unipuncta) - MARYLAND - No larval activity noted in small grains week ending May 2. Above normal populations again expected in Dorchester, Caroline, Talbot, and Wicomico Counties within next 21 days. Adult flights peaked in these counties and expected to peak in central area within 14 days. Current larval surveys in wheat and barley throughout State negative to date. First activity expected within 10 days on Eastern Shore. (U. Md., Ent. Dept.). KENTUCKY - Larvae averaged 8 per 100 sweeps in wheat at one location in land area between Kentucky and Barkley Lakes. (Barnett). TENNESSEE - Heavy moth flights noted last 14 days of April in Weakley and Henry Counties. Damage to small grains noted in eastern area. (Gordon, Bruer).

ILLINOIS - Small armyworm larvae ranged up to 6 per plant on 2 to 3-inch no-till corn in Massac County. (Ill. Ins. Rpt.). MISSOURI - Larvae observed in wheat in southeast area. Counts at economic level, 4-5 per foot of row, in most fields; larvae small, damage very light. (Jones). Small larvae observed in 2 of 11 small grain fields checked in southwest area; ranged 0-3 per row foot. Fescue and orchard grass pastures checked in southwest area. No larvae found in fescue but 3 of 5 orchard grass fields with 0-6 small larvae per square foot. (Munson). KANSAS - Heavy moth flights noted in Barton and Riley Counties; few moths noted in Finney County. (Bell). OKLAHOMA - Larvae light, 1-10 per 10 sweeps, in all wheat checked in Garvin, Stephens, Jefferson, Cotton, Tillman, and Jackson Counties; ranged up to 6 per linear foot in Snyder area of Kiowa County. (Okla. Coop. Sur.). MISSISSIPPI - Larvae abundant in rye and wheat in Delta counties; ranged 12-15 per square foot in Hinds County ryegrass. (Mitchell).

CORN EARWORM (Heliothis zea) - MISSOURI - First moth of season taken in blacklight trap in Douglas County April 26. (Munson).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Light in wheat in Texas and Cimarron Counties. (Okla. Coop. Sur.). KANSAS - Wheatfields treated in Finney, Haskell, and Grant Counties. (Bell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Light infestations found in alfalfa in Clark, Comanche, and Republic Counties. First of season. (Bell). NEVADA - Occasional specimens present on alfalfa in Las Vegas area, Clark County. (Hoff). NEW MEXICO - Counts of T. maculata ranged up to 800 and Acyrthosiphon pisum (pea aphid) up to 500+ per 25 sweeps in alfalfa along Pecos Valley in Eddy and Chaves Counties. Much honeydew present. Lysiphlebus sp. (a braconid wasp) active, 2-300 per 25 sweeps and ovipositing in these fields. (N.M. Coop. Rpt.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Egg masses present May 1 in Tyrrell County potato fields. Larvae expected next 3-12 days, depending on temperature. (Armstrong). DELAWARE - Pupation of overwintering larvae in Sussex County averaged 51 percent. (Kelsey). SOUTH DAKOTA - Spring survey indicated 90+ percent overwintering borer mortality in all counties surveyed. Number of surviving borers present minimal potential for damaging first generation. Comparison of 1974 fall infested cornstalks and 1975 spring survey showed good correlation. Heaviest 1974 fall infestation level found in Union County; however, more extensive survey this spring indicated "hot" spot in Elk Point area that should be watched. (Walgenbach).

SUGARCANE BORER (Diatraea saccharalis) - FLORIDA - Infestation in Everglades area sugarcane in Palm Beach and Hendry Counties became rather widespread by last week in March; continued to increase into heaviest and most widespread infestation in 10 years for this time of year by May 7. Collected and determined by T.E. Summers. (Fla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Population on Everglades area sugarcane peaked in late April and reached low level by May 7. Collected and determined by T.E. Summers. (Fla. Coop. Sur.).

SOUTHERN ARMYWORM (Spodoptera eridania) - ALABAMA - This species and S. exigua (beet armyworm) infested 5-10 percent of corn whorls in 10-acre Houston County field. Various ages of S. exigua light in 10-acre Coastal Bermuda grass field in Covington County. Braconid wasps developing in several larvae. (Roney et al.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - INDIANA - Adults injured up to 100 percent of plants in few fields where corn above ground. Corn in 2-leaf stage at most in southwest and south-central districts. (Edwards, Meyer). ILLINOIS - Averaged 1.5 per plant on 6-inch sweet corn in Madison and St. Clair Counties, damage light. Up to 3 per plant found on one to two-inch corn in Adams County, averaged less than one per plant. No damage noted. (Ill. Ins. Rpt.). MISSOURI - Light to moderate on all corn that is up in southwest area. Ranged 0-4 beetles per plant. Most plants in 3-leaf stage and 3 inches tall or less; very little feeding damage observed. In central area, beetles ranged 5-6 per plant in one field. (Seward).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MARYLAND - Populations in small grains week ending May 2 significantly lighter than those of 1974. If cool weather continues, presents potential for rapid development to economic levels. Surveys on Eastern Shore indicated aphid parasites heavy and widespread, but cannot control aphids during cool weather. Current population well below 1974 levels and damage to small grains very light. Populations and damage not expected to change significantly next 14 days. (U. Md., Ent. Dept.).

AN APHID (Rhopalosiphum padi) - CALIFORNIA - Infested wheat in Buttonwillow area, Kern County. Much treatment made this spring. Growth in grain fields variable due to wet weather. Excessive moisture caused yellowing in parts of many fields. (Cal. Coop. Rpt.). ARIZONA - Building up on wheat in Elfrido area of Cochise County. (Ariz. Coop. Sur.).

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Heavy on barley at Bowie, Cochise County. (Ariz. Coop. Sur.).

PALE WESTERN CUTWORM (Agrotis orthogonia) - OKLAHOMA - Moderate in wheat in Cimarron County. (Okla. Coop. Sur.).

WHEAT STEM MAGGOT (Meromyza americana) - OKLAHOMA - Adults noted in wheat in Garvin, Stephens, and Jefferson Counties. Occasional damaged head (whitehead) noted in field in Cotton County and field in Tillman County. (Okla. Coop. Sur.).

BROWN WHEAT MITE (Petrobia latens) - OKLAHOMA - Moderate in wheat in Cimarron County. (Okla. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - MARYLAND - Light to moderate week ending May 2. Alfalfa tip damage ranged 10-30 percent in Frederick and Washington Counties; light and not expected to reach treatment thresholds in areas outside these counties and northwest parts of Carroll County this season. Cool, rainy weather slowed weevil activity in all areas. Currently moderate in these counties with 40 percent of acreage having 20-50 percent tip injury. Treatment began in both counties. Populations much lighter and only occasional field required treatment. (U. Md., Ent. Dept.). VIRGINIA - Based on 12 alfalfa fields sampled (143.9 acres), 72.7 of tips infested. Average estimated defoliation 17.3 percent. Larvae large enough to cause serious damage. Ten fields (83 percent of sample) exceeded economic threshold of infestation (25 of 50 tips infested); 85 percent of acreage exceeded economic threshold. (Allen).

TENNESSEE - Alfalfa weevil larval counts made in 3 counties May 7-8. Number of tips infested per 50 tips examined by county: Chester 1, Giles 5, Tipton 2. Number of larvae per 50 tips: Chester 1, Giles 5, Tipton 2. Number of tips damaged per 50 tips examined: Chester 6, Giles zero, Tipton 5. All alfalfa fields in Davidson County below economic levels except one. (Knight). WEST VIRGINIA - Percent tip infestation in alfalfa by county: Morgan 54, Berkeley 80, Jefferson 90, Hampshire 20, Mineral 62, Hardy 20, Grant 60. Cool temperatures held back feeding damage in these

counties. First and second instars predominant except in Jefferson and Berkeley Counties where several third and fourth instars found. (Weaver, Hacker). OHIO - Larvae per 100 sweeps averaged as follows by county: Harrison 3.5, Guernsey 8.5, Jefferson 0.5, Monroe 12.5, Belmont none. Percent infested alfalfa tips by county: Harrison 10, Guernsey 28, Jefferson 7, Monroe 30, Belmont 8. (Lewis).

MICHIGAN - Alfalfa weevil adult emergence from overwintering quarters began April 14 in Lansing area. Adults currently active in alfalfa, averaged 23 per 20 sweeps May 7. No larvae found, but should appear soon due to recent warm weather. Growers should plan control programs. (Ruppel et al.). INDIANA - Larvae averaged 8.5 per stem in untreated alfalfa in southwest district and 5.8 in south-central district; 56 percent of larvae in third or fourth instar, compared to 31 percent week ending May 2. Larvae noted in northern area of southeast district and in central district south of Indianapolis. Infestation ranged 0-38 percent in northern districts, averaged 2 percent in northwest, 26 in north-central, and 15 in northeast. Treatment required in all southwest and south-central district fields with possible exception of some new Jackson County fields with good growth where timely harvest would solve problem. More egg hatch expected. (Meyer).

ILLINOIS - H. postica economic in most alfalfa south of line from Douglas County to Fulton County (about southwestern half of State), treatments advised. Alfalfa ranged 12-16 inches tall. Percent tip feeding in 9 counties in western, central, and east-southeastern districts ranged 0-100 percent. Larvae ranged 0-36 per 100 tips and 0-5,000 per 100 sweeps; 50+ percent of larvae in more heavily infested fields third and fourth instars. (Ill. Ins. Rpt.). MINNESOTA - No activity noted in south-central district. Alfalfa growth reached average of 2-3 inches due to cool weather and late spring. (Minn. Pest Rpt.).

IOWA - Alfalfa weevil larvae increased in southern area alfalfa; ranged 1-3 per stem in Fremont and Page Counties. Feeding damage highly variable among fields. Treatments initiated in southwestern area. Fields in southeastern and more northern counties exhibit less feeding damage and fewer larvae. (Iowa Ins. Sur.). MISSOURI - Counts in west-central and central areas ranged 3-14 larvae per alfalfa plant. Defoliation observed in untreated fields. (Munson). KANSAS - Severely laced alfalfa common along State Highway 18 from Geary County west into southern Osborne County. Most fields along this route treated although somewhat late in many cases. Foliar damage significant in some fields as far north and west as Rooks, Phillips, and Smith Counties. Some treating noted as far north and west as Smith and Jewell Counties and one field in southeastern Norton County. Infestations remained light in fields in Republic and Marshall Counties. Larvae also light in Finney, Haskell, Scott, and Thomas Counties. Pupation well underway with some first-generation adults emerged in Clark and Douglas Counties. (Bell).

OKLAHOMA - H. postica larvae averaged 500 and adults 20 per 10 sweeps of alfalfa in Washita and Caddo Counties, and larvae 200 and adults 170 in Garvin County. Larvae ranged 1-200 and adults 1-4 per 10 sweeps in Tulsa County. Larvae ranged up to 25 per square foot in Payne, Seminole, Lincoln, Creek, McClain, Pottawatomie,

Grady, Murray, and Carter Counties, up to 100 in Muskogee County. Heavy adult feeding noted in Creek and Lincoln Counties. Moderate to heavy infestations reported in Comanche, Kay, and Texas Counties. First cutting of alfalfa underway in many areas. (Okla. Coop. Sur.). NEW MEXICO - Larvae taken from alfalfa near Artesia, Eddy County, by L. Mathews May 2, 1975. Additional larvae and adults collected in area May 6 by W. Iselin. This is a new county record. This record represents last county in eastern alfalfa-growing area of State to be infested. In Quay County area, pest increased at phenomenal rate; it is hoped first cutting will retard this increase. (N.M. Coop. Rpt.).

NEVADA - No alfalfa weevil eggs found on alfalfa in Mason and Smith Valleys, Lyon County. (Bechtel, Clark). In 1971, pest found in southeast section of Las Vegas area, Clark County. Subsequent surveys indicated it was confined to this section. This period, however, spread to northwest confirmed by larval collections there. (Hoff). WASHINGTON - H. postica, H. nigrirostris (lesser clover leaf weevil), and Sitona hispidulus (clover root curculio) collected in alfalfa and timothy west of Ellensburg, Kittitas County, April 30. (Bloom et al.).

ALFALFA WEEVILS (Hypera spp.) - CALIFORNIA - Larvae of H. postica (alfalfa weevil) and H. brunneipennis (Egyptian alfalfa weevil) damaged stems and leaves of alfalfa at Kelseyville, Lake County. (Cal. Coop. Rpt.).

CLOVER LEAF WEEVIL (Hypera punctata) - IDAHO - Larvae ranged 1-2 per crown in 20-acre alfalfa hay field near Rogerson, Twin Falls County. Larvae fed on new shoots. (Scoggan).

CLOVER ROOT BORER (Hylastinus obscurus) - OREGON - First adults of season taken on sticky boards located in second-harvest-year red clover fields at Cornelius, Washington County, May 1 and 2. Beetle flights in Yamhill and Polk Counties very light May 2-8, averaged 0.5 per trap. No adults trapped in Marion County during period April 28 to May 5. (Collins et al.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Adults averaged 12 per 25 sweeps in alfalfa in Oktibbeha County. (Robinson).

VETCH BRUCHID (Bruchus brachialis) - OKLAHOMA - Light, 4 per 10 sweeps, in vetch checked in Garvin County. (Okla. Coop. Sur.).

ALFALFA LOOPER (Autographa californica) - OREGON - Only 3 adults trapped May 1-7 in 5 blacklight traps located in Washington, Marion, and Linn Counties. Traps in operation since April 15. (Penrose). WASHINGTON - Only 12 moths taken in 30 pheromone traps in 10-trapping days at Walla Walla, Walla Walla County. (Halfhill).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Averaged one per 10 sweeps in alfalfa in Garvin County. First of season. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - OKLAHOMA - Averaged 2 per 10 sweeps in alfalfa in Garvin County. First of season. (Okla. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - NEVADA - Increased to 50 per sweep on alfalfa in Las Vegas area, Clark County; reached economic levels in Virgin Valley, with chemical treatments under consideration. Ranged 50-125 per crown in more heavily infested alfalfa at south end of Smith Valley, Lyon County; controls applied or underway. Predators and parasites very light and spotted. Occasional A. pisum present on alfalfa in Mason Valley, Lyon County. None observed on seed alfalfa at Jungo, Humboldt County. (Bechtel et al.). OKLAHOMA - Averaged 280 per 10 sweeps of alfalfa in Garvin County, ranged 50-100 per 10 sweeps in Tulsa County. Light to moderate in southwest counties. (Okla. Coop. Sur.).

AN APHID (Acyrthosiphon sp.) - ARIZONA - Alfalfa fields at Yuma Mesa, Yuma Valley, Gila Valley, Dome Valley, Roll, Tacna, Wellton, Somerton, and San Luis, in southwest Yuma County, sampled with negative results for presence of this apparent new pest in loti group. Collections being retained for further taxonomic study. (Ariz. Coop. Sur.). See CEIR 25(17):330, 25(18):349, and 25(19): 369 for reports from California and Nevada. (PPQ).

MEADOW SPITTLEBUG (Philaenus spumarius) - ILLINOIS - Nymphs ranged 0-40 (average 5) per 100 alfalfa stems in Fulton, Knox, Champaign, De Witt, Marshall, Mason, Menard, Woodford, and Douglas Counties. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Adults and nymphs averaged 20 per 25 sweeps in alfalfa in Oktibbeha County. (Robinson). NEW YORK - Adults noted at 7 per 100 sweeps on 3-inch alfalfa in Tioga County. (Muka).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Overwintered weevils collected in traps in Haywood, Madison, McNairy, and Hardeman Counties. Weevils trapped per week increased rapidly in Hardeman and McNairy Counties. (Gordon, Bruer). MISSOURI - Total of 57 weevils taken from 21 traps in Stoddard and Dunklin Counties. (Jones).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OREGON - Recent warm weather initiated adult activity in potato-producing areas of Umatilla County. No eggs yet noted. (Goeden). OKLAHOMA - Adults damaged garden potatoes in most areas of State. Egg laying underway in most areas. (Okla. Coop. Sur.).

BEANS AND PEAS

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Adult flights general May 8 throughout northern area. Adult feeding in alfalfa moderate to severe in several areas of Idaho, Nez Perce, and Lewis Counties. Growth of seedling alfalfa plants and established stands retarded due to feeding of up to 12 weevils per crown. Controls in alfalfa not advised at this time. Warmer and dryer weather will result in mass movement of weevils to peas and other legumes; this will allow alfalfa to grow at more normal rate. Spot and perimeter spraying of peas underway in Nez Perce County. (Fisher et al.).

GENERAL VEGETABLES

ASPARAGUS BEETLES (Crioceris spp.) - OREGON - C. asparagi (asparagus beetle) and C. duodecimpunctata (spotted asparagus beetle) adults emerged and noted mating at Hermiston, Umatilla County. (Goeden).

A NOCTUID MOTH (Euxoa scandens) - MICHIGAN - Larvae numerous on asparagus in Oceana County. Growers should apply controls. (Cress).

SEEDCORN MAGGOT (Hylemya platura) - NORTH CAROLINA - Larvae damaged germinating seeds and seedlings of cucumbers, snap beans and several other vegetables in Sampson, Wayne and Beaufort Counties in Coastal Plain area. (Hunt).

HAWAII INSECT REPORT

General Vegetables - WESTERN FLOWER THRIPS (Frankliniella occidentalis) and TOBACCO THRIPS (F. fusca) adults and nymphs light to moderate in 2 acres of manoa lettuce at Koko Head, Oahu; damage moderate on randomly sampled heads. F. occidentalis adults found on popolo (Solanum nigrum) flowers. Spotted wilt diseased lettuce heads observed throughout sampled field. Survey of koa haole flowers showed F. fusca predominant species, only few F. occidentalis present. F. fusca abundant on flowers. CARMINE SPIDER MITE (Tetranychus cinnabarinus) damage heavy in acre of snap beans at Waimanalo, Oahu. Feeding injury very noticeable. Populations throughout field light, 0-10 per square inch. (Mau).

Fruits and Ornamentals - Late-instar larvae of OLEANDER HAWK MOTH (Deilephila nerii) light on oleander hedges at several locations at Hawaii Kai, Oahu; terminal damage light at each location. No eggs or young larvae found. Random survey of 5 acres of banana on Oahu yielded 80 early instar larvae and few egg clusters of BANANA SKIPPER (Erionota thrax). This in contrast to one egg cluster and 2 larvae collected at same location 14 days ago. E. thrax infestations appear to be increasing slightly at certain locations on leeward Oahu. Parasites observed in these plantings. (Kumashiro).

Turf and Pastures - ARMYWORM (Pseudaletia unipuncta) larvae and damage heavy during April at Kukaiau Ranch, Kona, Hawaii Island; 400 acres of Kikuyu grass pastures virtually denuded. Larvae averaged 4 per square foot in adjoining pastures, but ranged up to 20 per square foot. Numerous pupal masses of Apanteles militaris (a braconid wasp) observed in all infested pastures; adults also abundant. Numerous tachina fly pupae reared from collected P. unipuncta larvae. (Matayoshi).

Beneficial Insects - Several adults of an ANTHOCORID BUG (Paratriphleps laeviusculus) collected from eggplant flowers at Waiminalo, Oahu. These first field collected specimens of species other than from light trap catches. Species first reported in State in CEIR 25(6):42, when 4 specimens taken in light trap. P. laeviusculus reported to be one of most important predators of Heliothis virescens (tobacco budworm) eggs and larvae on cotton in Peru. Reportedly accounted for 70 percent of all predation which occurred. See J. Econ. Ent. 44(1):13. (Mau).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Male moths taken in pheromone traps at Wapato, Yakima County, May 5 and at Parker and Sunnyside April 30. (Eves et al.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - Twenty male moths taken in 14 pheromone traps in peach trees week ending April 29 in Parker area of Yakima County; averaged 1.4 per trap. (Retan et al.).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MICHIGAN - Moths totaled 190 in pheromone traps at experiment station near Mattawan, Van Buren County, week ending May 6. First egg mass found May 6 by H. Hogmire. This is peak flight in area, larvae should appear next 14-21 days. (Olsen).

EYESPOTTED BUD MOTH (Spilonota ocellana) - MICHIGAN - Larvae averaged about one per bud in abandoned apple trees in Hart area, Oceanan county. (Olsen).

PEACHTREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Pupation noted in infested Tillman County peach trees. (Okla. Coop. Sur.).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - Moderate to heavy on Shawnee County apple seedlings. (Bell).

WOOLLY APPLE APHID (Eriosoma lanigerum) - WASHINGTON - Nymphs observed in aerial colonies on apple trees May 2 and 5 at Yakima, Yakima County. (Johnson, Hudson).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Third-instar nymphs found on pears at Ahtanum, Yakima County, May 2; nymphs observed on pears in upper Yakima Valley same date. (Johnson et al.).

CALIFORNIA PEARSLUG (Pristiphora abbreviata) - WASHINGTON - First eggs and adults of season observed on pear at Yakima and Moxee, Yakima County, April 30. First larval instars found feeding on pear leaves May 1 at Wapato, Yakima County. (Gregorich et al.).

MCDANIEL SPIDER MITE (Tetranychus mcdanieli) - WASHINGTON - Adult females and first-generation eggs observed on apple and pear in Yakima County May 2. (Hudson et al.).

EUROPEAN RED MITE (Panonychus ulmi) - WASHINGTON - Early stages observed on primary apple leaves at Yakima, Yakima County, May 2. (Johnson et al.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - NEW MEXICO - Overwintered generation pupation noted. Pupae collected on new growth from within twigs and from rough bark on pecan trees at Carlsbad, Eddy County. (N.M. Coop. Rpt.). OKLAHOMA - Overwintered larvae caused heavy damage to pecan shoots in Comanche County. This is first of season. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Damage to pecans by nymphs beginning over State. (Robinson).

PECAN LEAF PHYLLOXERA (Phylloxera notabilis) - OKLAHOMA - Galls appeared on pecan leaves in Garvin County. (Okla. Coop. Sur.).

EUROPEAN FRUIT LECANIUM (Lacanium corni) - CALIFORNIA - Adults infested almond trees at Orland, Glenn County. Scale infestations spotty this season. (Cal. Coop. Rpt.).

CITRUS

A TORTRICID MOTH (Platynota stultana) - CALIFORNIA - Larvae damaged orange tree foliage at San Marcus, San Diego County. (Cal. Coop. Rpt.).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Infestations observed on lemon trees at Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - No heavy buildups reported on citrus in Yuma area, Yuma County. (Ariz. Coop. Sur.).

SMALL FRUITS

GRAPE FLEA BEETLE (Altica chalybea) - MICHIGAN - Moderate on grapes in Mattawan area of Van Buren County, feeding damage noted. (Olsen). ALABAMA - Larvae still heavy and damaging grape foliage in Choctaw, Bibb, and Lee Counties, and several other areas of State. (Deavours et al.).

IMPORTED CURRANTWORM (Nematus ribesii) - OREGON - First eggs of season noted May 3 on gooseberry at Croison Gulch, Marion County. (Westcott).

A CLIMBING CUTWORM (Lampra alternata) - MICHIGAN - Active on grapes in southwest area. Sprays should be applied at night to kill larvae while feeding. (Olsen).

BLUEBERRY BUD MITE (Acalitus vaccinii) - NORTH CAROLINA - General damage decrease from 1973 noted in 12 blueberry fields surveyed in Bladen, Pender, and Duplin Counties, 4 fields each. Less than 25 percent of buds heavily damaged in all fields. (Hunt, Weaver).

ORNAMENTALS

A SOFT SCALE (Toumeyella virginiana) - ALABAMA - Taken on Pinus echinata (shortleaf pine) at Perote, Bullock County, April 26, 1975. Collected and determined by M.L. Williams. This is a new county record. (McQueen).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - ALABAMA - Taken on Platanus occidentalis (American sycamore) in Dallas County May 3. Collected and determined by M.L. Williams. This is a new county record. (McQueen).

AN ARMORED SCALE (Diaspidiotus coniferarum) - FLORIDA - Infested stems of eastern redcedar trees (Juniperus virginiana) in nursery at Pensacola, Escambia County, April 24, 1975. Collected by A.E. Graham. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

PALES WEEVIL (Hylobius pales) - OHIO - Extremely heavy populations of this species and Pissodes approximatus (northern pine weevil) developing in northern area. Oviposition occurring on stumps cut during past winter, and on slash and storm-damaged trees. Adults feeding on seedlings and twigs of mature trees. Cultural sanitation recommended to eliminate breeding sites. (Balderston)

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TENNESSEE - Taken from pine trees in Wayne County April 15, 1975, Hardin County March 15, 1975, and Grundy County March 15, 1975. Collected by H. Cardin and J. Kirksey. Determined by B. Kauffman and H. Cardin. These are new county records. (Gordon, Bruer).

ELM LEAF BEETLE (Pyrrhalta luteola) - KANSAS - Egg masses reported on Siberian elms at Topeka, Shawnee County; adults very active in Crawford County. (Bell). OKLAHOMA - Oviposition noted on Siberian elms in Major and Payne Counties. (Okla. Coop. Sur.).

COTTONWOOD LEAF BEETLE (Chrysomela scripta) - TENNESSEE - Immatures began defoliating willow trees in some Davidson County locations. (Schmitt, Hooper).

FALL CANKERWORM (Alsophila pometaria) - MARYLAND - First and second-instar larvae feeding on deciduous trees on Sugarloaf Mountain in Frederick County. Damage expected to be heavy within next 21 days. Infestation covers several hundred acres. (U. Md., Ent. Dept.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - KENTUCKY - Average number of tents based on number observed along 10-mile segment of roadside by county as follows: Calloway 16.2, Taylor 0.8, McLean 2.3, Muhlenberg 0.1, Russell 0.3, Fayette 4.1. Tents within 50 yards of each side of road recorded. Infestations heavy in Shelby County. (Barnett, Gregory). RHODE ISLAND - First egg hatch of season observed April 30 in Providence County. (Gardner).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 77 cases reported from continental U.S. during period April 27-May 3 as follows: Texas 72, Arizona 5. These were first cases reported from Arizona this year. Total of 95 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 91,376,100 as follows: Texas 91,196,100; Arizona 180,000. Total of 81,816,900 sterile flies released in Mexico. (Vet. Serv.).

NORTHERN CATTLE GRUB (Hypoderma bovis) - KENTUCKY - Larvae averaged 2.4 per animal on backs of 25 Holstein dairy cows of various ages in Fayette County. (Barnett).

FACE FLY (Musca autumnalis) - INDIANA - Observed on cattle, horses, and occasionally sheep in Warren County. (Chandler). TENNESSEE - Population increased in central area, ranged 5-25 per head on cattle. (Gordon, Bruer). MISSISSIPPI - Averaged less than one per face on beef cattle in Oktibbeha County. Oviposition underway, first generation should emerge next 14 days. (Robinson). MARYLAND - Overwintering adults active in all areas of central area. Populations light, ranged 5-10 adults per head in heaviest infestations. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Increased to 10 per Scudder grid in untreated barns in Payne County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Averaged 200 per head on beef and dairy cattle in most areas. (Robinson). OKLAHOMA - Averaged 800 per head on Payne County cattle, ranged 250-400 per head in Major County. Moderate to heavy in Comanche County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 6 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.).

MOSQUITOES - MARYLAND - Aedes vexans pupation nearing peak in central area. Annoyance not expected to be significantly different than at this time in 1974. Aedes canadensis adults active in same localities in central area. (U. Md., Ent. Dept.).

AMERICAN DOG TICK (Dermacentor variabilis) - RHODE ISLAND - Populations very troublesome and more extensive over State; much earlier than past 6-8 years. (Relli).

HOUSEHOLDS AND STRUCTURES

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - RHODE ISLAND - First swarm of season observed April 2 in Providence County. Many problems reported statewide. Heavier than in 1974 in Providence and Kent Counties. (King, Hannah). IOWA - Swarms reported from Madison and Woodbury Counties April 4. (Iowa Ins. Sur.).

A CARPENTER ANT (Camponotus sayi) - ALABAMA - Winged adults emerged from residence in Marengo County March 14, 1975. Collected by R. Yates. Determined by D.R. Smith. This is a new State record. (McQueen). Species known as C. rasilis in most literature. (Smith).

STORED PRODUCTS

A CLERID BEETLE (Tarsostenus univittatus) - ALABAMA - Larvae taken from wooden shoe heel imported from Brazil at Elmore County residence March 20, 1975. Collected by W.R. McQueen. Determined by D.M. Anderson. Adult collected in same shoe heel and determined by R.E. White. This is a new State record. (McQueen). Species beneficial predator established in the United States. (PPQ).

CONFUSED FLOUR BEETLE (Tribolium confusum) - ARIZONA - Heavy in 1,600 pounds of coniferous tree seed to be planted at Oak Creek, Coconino County. (Ariz. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - WASHINGTON - Coccinella transversoguttata (transverse lady beetle) adults dispersed from overwintering sites throughout lower and upper Yakima Valley. Egg clusters observed on peaches April 28 in lower valley near Parker, Yakima County. (Hudson et al.). ARIZONA - Hippodamia convergens (convergent lady beetle) heavy in Yuma County alfalfa. (Ariz. Coop. Sur.). OKLAHOMA - H. convergens ranged 15-20 per 10 sweeps in Tulsa County alfalfa. Adults averaged 15 and larvae 17 per 10 sweeps in Garvin County alfalfa. (Okla. Coop. Sur.).

AN ICHNEUMONID WASP (Bathyplectes curculionis) - OKLAHOMA - Parasitism of Hypera postica (alfalfa weevil) larvae averaged as follows by county: Payne 26, Seminole 44, Pottawatomie 25, Grady 26, Murray 31, Carter 53, and Garvin 67. (Okla. Coop. Sur.).

A MYMARID WASP (Anaphes flavipes) - OHIO - This egg parasitoid of Oulema melanopus recovered at one site in Twin Township, Ross County, May 9. (DeWitt).

PHYTOSEIID MITES - WASHINGTON - Zetzelia mali found on prunes at Parker, Yakima County, May 5. (Eves et al.). Typhlodromus sp. found feeding on Tetranychus mcdanieli (McDaniel spider mite) and Panonychus ulmi (European red mite) on apples at Ahtanum, Yakima County, May 2. (Gregorich).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - First adult activity noted in Steuben and Livingston Counties May 7. (LeMaire). OHIO - Adults per 100 sweeps by county (host in parentheses): Franklin (wheat) 2, Madison (wheat) 4, Delaware (wheat, oats) none, Union (oats) none, Harrison (wheat) 53.3. (Lewis). KENTUCKY - Eggs found in Shelby, Nicholas, Fleming, and Lewis Counties. Adult feeding damage noted in Shelby County field, no eggs found. Eggs noted on grasses surrounding fields. Larvae observed on barley and winter wheat in Fleming and Lewis Counties. No evidence noted in Calloway County or in land area between Kentucky and Barkley Lakes. Anaphes flavipes (a mymarid wasp) released in Shelby, Nicholas, Fleming, and Lewis Counties. (Barnett). WEST VIRGINIA - Eggs per square foot in oats May 8 averaged 2 in Monroe County and 4.2 in Mason County. (Moore).

GRASSHOPPERS - NORTH DAKOTA - Egg development in Grant, Adams, and Hettinger Counties ranged from coagulated to eye spot with 34 percent coagulated and 54 percent eye spot. Four percent of egg pods dessicated, 8 percent destroyed by predators. (Brandvik, Scholl).

GYPSY MOTH (Porthetria dispar) - RHODE ISLAND - First egg hatch of season noted May 6 in Providence County. (LaFrance). DELAWARE - First small larvae of season present in New Castle County. (Burbutis). MARYLAND - Egg mass surveys revealed 85 positive sites in Cecil County and one in Harford County. This represents very significant increase over 1974 levels at this time. Suppression programs planned to begin within next 14

days. (U. Md., Ent. Dept.). PENNSYLVANIA - Two gypsy moth larvae noted after hatch of egg masses on tree at Bridgton Township, Bucks County, April 30, and two per egg mass noted at Tylersport, Bucks County, May 6. Currently, hatch of 40 percent of egg masses noted along Lebanon and Lancaster County line. Twenty percent of egg masses hatched at Bethel Township, Berks County. About 30 larvae per 25 egg masses per acre noted in Berks County. (Raub et al.).

JAPANESE BEETLE (Popillia japonica) - RHODE ISLAND - Grub populations in sod in Providence, Bristol, and Kent Counties heaviest in 5-6 years. (Hannah, King).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae damaged tomato plants in scattered spots in many commercial plantings in Geneva County. (Smith, Reynolds).

DETECTION

New State Records - A CARPENTER ANT (Camponotus sayi) - ALABAMA - Marengo County. (p. 395). A CLERID BEETLE (Tarsostenus univittatus) - ALABAMA - Elmore County. (p. 395).

New County Records - ALFALFA WEEVIL (Hypera postica) NEW MEXICO - Eddy (p. 389). AN ARMORED SCALE (Diaspidiotus coniferarum) FLORIDA - Escambia (p. 394). COTTONY MAPLE SCALE (Pulvinaria innumerabilis) ALABAMA - Dallas (p. 393). A SOFT SCALE (Toumeyella virginiana) ALABAMA - Bullock (p. 393). SOUTHERN PINE BEETLE (Dendroctonus frontalis) TENNESSEE - Wayne, Hardin, Grundy (p. 394).

CORRECTIONS

CEIR 25(10):150 - Distribution of Western Corn Rootworm, Diabrotica virgifera: WISCONSIN - Remove Menominee County.

CEIR 25(10):152 - Distribution of Northern Corn Rootworm, Diabrotica longicornis: WISCONSIN - Remove Rusk, Oconto, and Marinette Counties.

CEIR 25(15):298 - Distribution of Face Fly, Musca autumnalis: ALABAMA - Remove Lauderdale, Etowah, and Randolph Counties.

CEIR 25(15):291 - FORAGE LEGUMES - OHIO - " ... single Microctonus colesi (a braconid wasp) ..." should read "... single Microctonus aethiops ..." (Lewis).

CEIR 25(15):301 - "MODOC BUDWORM (C. viridus) ..." should read "MODOC BUDWORM (C. viridis) ..." (PPQ).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, O = mercury vapor, other = other)	Agrotis ipsilon (dingy cutworm)	Autographa gamma (cabbage looper)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra brassicae (cabbage moth)	Mamestra trifolii (cabbage armyworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																				
Mesa 4/28-5/5			BL	13		22		1					44		40		5	8		
FLORIDA																				
Gainesville 5/2-8			BL		3	102		1				2		2	9	5	7	3		
INDIANA (Counties)																				
Gibson 4/26-5/2			BL	19	7									215						
Knox 4/26-5/2			BL	12	7									196						
KANSAS																				
Great Bend 5/1-7			BL	25		37	62						6	375			16			
Tribune 4/28			BL	1		1	5							1						
KENTUCKY (County)																				
Madison 4/29-5/5			BL	1										24				1		
MICHIGAN																				
Tipton 4/29-5/5			BL	3									24	87						
MISSISSIPPI																				
Stoneville 5/2-8	56-82	4.23	2BL	90		15	20	21					30	99			18			
NEW MEXICO																				
Las Cruces 5/2-8			BL	6		98					5		7	15	13					
OHIO																				
Wooster 5/3-9			3BL	9									3	75						
PENNSYLVANIA (Districts)																				
Central 4/28-5/5			BL	3										24						
North East 4/28-5/5			BL	1																
TENNESSEE (Counties)																				
Hardeman 5/1-7			BL	3									6	10			4	2		
Madison 5/1-7			BL	10								3		42						
WISCONSIN																				
Lancaster 4/30-5/7			BL										1	5						

Distribution of the Pecan Weevil in Georgia

Robert M. Barry 1/ and Sammy G. Polles 2/

The pecan weevil, Curculio caryae (Horn), is a light-brown beetle about one-half inch long with a long snout (Figure 1). The snout of the female is longer than the body, and that of the male is about half as long. The insect attacks the pecan nut causing serious crop losses in Texas and Oklahoma and most of the Southeastern States.

Adult pecan weevils emerge from the soil in Georgia from late July to mid-October. Rainfall and other climatic conditions may influence the pattern of emergence in any one year, but maximum emergence usually occurs between August 20 and September 20 with increased emergence following periods of rainfall. The adult pecan weevils damage the nuts early by feeding on the nuts before shell hardening causing the nut to drop to the ground prior to maturity.

After shell hardening and the beginning of kernel formation, the female weevil deposits 2 to 4 eggs per pecan nut. The later damage is caused by the developing larvae feeding on the kernels making the nuts worthless (Figure 2). Upon completion of development, a larva leaves the nut through a small hole it has cut in the shell and drops to the ground to burrow into the soil an average of 6 inches. Larvae remain in the soil for a period of two to three years prior to pupating and emerging as adults, and subsequently leaving the soil to begin another cycle.

Pecan production in Georgia has increased from 5 million pounds in 1925 to about 100 million pounds produced in 1973. Georgia production accounts for nearly one-third of the total United States production.

A survey was conducted in 1974 to determine the distribution of the pecan weevil in Georgia. The survey encompassed 152 of Georgia's 159 counties and was concentrated in those counties with the highest pecan tree populations (generally 10,000 trees).

Figure 3 shows weevil-infested counties and those counties containing at least 10,000 trees. As indicated in Figure 3, the pecan weevil is widely distributed in Georgia. It occurs from the Georgia-Alabama border on the west to the Atlantic Ocean on the east and from the Georgia-Florida border on the south to the mountainous areas in North Georgia. Its occurrence in all intensified pecan-production counties in Georgia except Worth, Colquitt, and Ware is especially noteworthy. Growers should exercise extreme care in noninfested areas and not import weevils from infested areas in equipment, nuts, soil, etc.

1/ Extension Entomologist, University of Georgia College of Agriculture, Tifton 31794

2/ Research Entomologist, University of Georgia Coastal Plain Experiment Station, Tifton 31794

Figure 1. Pecan weevil adult.

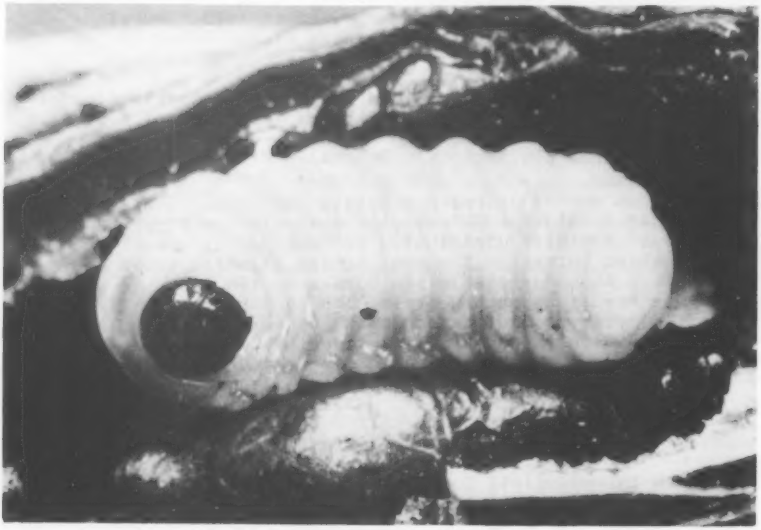

Figure 2. Pecan weevil larva in pecan kernel.

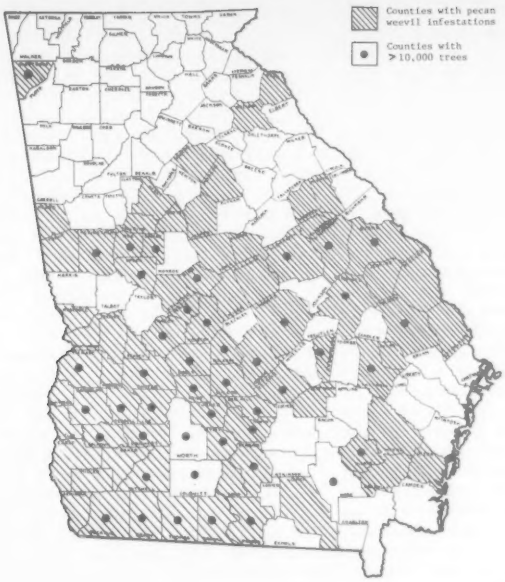

Figure 3. Pecan weevil distribution in Georgia

Readers interested in additional information concerning the pecan weevil should refer to the following reference:

Gentry, C.R., Bowden, L.B., Payne, J.A., and Tedders, W.L. 1973. A bibliography of the pecan weevil, Curculio caryae (Coleoptera: Curculionidae). Bul. Ent. Soc. Amer. 19(4):203-207.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(20):399-401, 1975

and Iowa. Cold rain and snow continued over the northern Rockies. In the South, Louisiana, Mississippi, Georgia, and Tennessee continued getting an undue share of heavy thunderstorms. Cooler air pushing south in the Northeast caused rain and showers in Pennsylvania. The Low in Montana had dissipated by Thursday, but precipitation continued in a band from the mid-Mississippi Valley through parts of the northern Plains. Snow and rain showers in the Rockies had become widely scattered. A semistationary front north of the gulf coast was developing waves along it, causing widespread severe weather from east Texas through Georgia. A line of thunderstorms developed from central Arkansas to central Kentucky and moved eastward. Excessive rain in northern Louisiana was causing small streams to flood. Baseball-sized hail pounded the ground in southern Texas and heavy rains caused some flash flooding. The front in the South extended from northern Florida through Louisiana to southeast Texas and on to northwest Texas on Friday. Thunderstorms were again the order of the day in the South. Tornadoes struck in Mississippi, Louisiana, Arkansas, and west Texas. One and one-half-inch hail and winds to 60 m.p.h. accompanied a thunderstorm at Bartlesville, Oklahoma. Isolated showers fell in the central Plains and moderate to heavy rains in western North Dakota caused some rivers to rise to near bank-full. Showers and isolated thunderstorms occurred from West Virginia to Georgia. Saturday, the weather patterns were getting complex again. A Low pressure center, developing in Colorado, caused rain and thunderstorms from western Kansas to the Dakotas and into eastern Montana and Wyoming. A Pacific front moving on-shore caused rain in western Washington and Oregon. Late in the day, thunderstorms and some tornado activity developed in west Texas. Scattered showers and thunderstorms moved through the Southeast from Georgia to North Carolina. The moist weather pattern continued in the Pacific Northwest and from Texas into the Plains on Sunday. The precipitation was light in the Northwest, but parts of south-central and north-central Texas were alerted for flash floods due to heavy rain. Rain and showers fell in Iowa, Minnesota, and Illinois and the rain area was moving eastward.

TEMPERATURES: Monday, cold air poured into the Rocky Mountains bringing a freezing spring day to many mountain areas. Early morning temperatures ranged from the upper teens and low 20's in the northern Rockies to the 70's and 80's along the gulf coast. At midweek, cool air had moved to the Mississippi Valley and to southwest Texas. More cold air moved into the States from eastern Canada. High temperatures for Wednesday were in the 40's and 50's in Maine and the northern Rockies. The 80's were confined to the South with some 90's in southern Florida with a low of 38 degrees. Most of the Nation was warmer by Sunday. High temperatures reached the 70's throughout New England. Alpena, Michigan, set a record high for the date with 73 degrees. However, the Upper Michigan Peninsula and northern Minnesota were only in the 50's. The 60's were common in the North Central and Northwestern States. Some spots in the Southwest topped 100 degrees.

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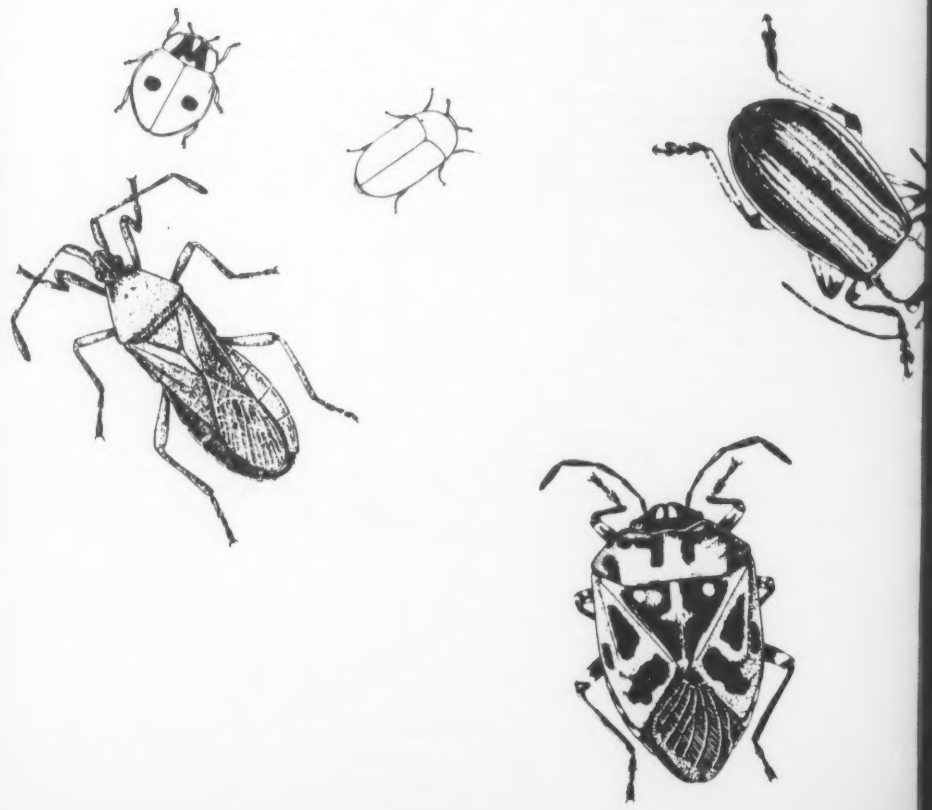
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